WHAT IS CLAIMED IS:

1. An electronic circuit comprising:

a shift circuit for shifting j-bit digital data (j is a natural number) to be converted into k-bit digital data (k is a natural number); and

a correction circuit being electrically connected to the shift circuit, the correction circuit continuously changing the k-bit digital data which is obtained by the shift circuit in accordance with the change of the j-bit digital data.

2. The electronic circuit according to Claim 1,

wherein the k-bit digital data is extended digital data which is larger than the j-bit digital data; and

wherein the shift circuit classifies a range of the j-bit digital data into a plurality of groups and shifts the digital data of each group by a predetermined number of bits in accordance with each group to convert it into the k-bit digital data.

3. The electronic circuit according to Claim 2,

wherein the correction circuit is electrically connected to electro-optical elements;

wherein the j-bit digital data is luminance gray scale data for controlling the luminance of the electro-optical elements; and

wherein the k-bit digital data is extended luminance gray scale data for controlling an amount of analog current which is supplied to the electro-optical elements.

4. The electronic circuit according to Claim 1,

wherein the correction circuit is an adder.

5. The electronic circuit according to Claim 1,

wherein the shift circuit determines the number of bits by which the j-bit digital data is shifted in accordance with the value of the j-bit digital data.

6. The electronic circuit according to Claim 5,

wherein the shift circuit performs shifting to the upper side so that a larger value group is shifted by a larger number of bits.

7. An electro-optical device comprising:

a control circuit for outputting j-bit luminance gray scale data (j is a natural number);

a driving circuit for generating analog driving signals based on the j-bit luminance gray scale data; and

a pixel circuit for driving current driven elements based on the analog driving signals,

wherein the driving circuit comprises:

a shift circuit for shifting the j-bit luminance gray scale data to convert it into k-bit digital data (k is a natural number);

a correction circuit being electrically connected to the shift circuit, the correction circuit continuously changing the k-bit digital data which is obtained by the shift circuit in accordance with the change of the j-bit luminance gray scale data.

8. The electro-optical device according to Claim 7,

wherein the k-bit digital data is extended digital data which is larger than the j-bit luminance gray scale data; and

wherein the shift circuit classifies a range of the j-bit digital data into a plurality of groups and shifts the digital data of each group by a predetermined number of bits in accordance with each group to convert it into the k-bit digital data.

9. The electro-optical device according to Claim 7,

wherein the correction circuit is an adder.

10. The electro-optical device according to Claim 7,

wherein the shift circuit determines the number of bits by which the j-bit luminance gray scale data is shifted in accordance with the value of the j-bit luminance gray scale data.

11. The electro-optical device according to Claim 10,

wherein the shift circuit performs shifting to the upper side so that a larger value group is shifted by a larger number of bits.

12. The electro-optical device according to Claim 7,

wherein the current driven elements are EL elements.

13. The electro-optical device according to Claim 12,

wherein the EL elements comprise light emitting layers made of organic materials.

14. An electronic apparatus in which the electronic circuit according to Claim 1 is mounted thereon.

15. An electronic apparatus in which the electro-optical device according to Claim 7 is mounted thereon.